



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,194	02/11/2004	Hiroshi Tsuchi	8045-1019	1617
466	7590	06/20/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			NGUYEN, LONG T	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/775,194

Applicant(s)

TSUCHI, HIROSHI

Examiner

Long Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/11/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because Figure 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claims 1-24 are objected to because of the following informalities:

Claim 1, line 15, --wherein-- should be inserted before "a driving".

Claims 2-18 and 22-24 are objected to because they include the informality of claim 1.

Claim 7, lines 20-21, "switches having one terminals" should be changed to --switches, each having one terminal,--.

Claim 8, line 19, "switches having one terminals" should be changed to --switches, each having one terminal,--.

Claim 8, line 21, "switches having one terminals" should be changed to --switches, each having one terminal,--.

Claim 9, line 1, "each of" should be deleted.

Claim 10, line 2, "on/off, respectively, by" should be changed to --on or off by--.

Art Unit: 2816

Claim 10, line 3, "are controlled" should be deleted.

Claim 11, line 2, "on/off, respectively, by" should be changed to --on or off by--.

Claim 11, line 3, "are controlled" should be deleted.

Claim 12, line 12-13, "the output of" should be changed to --one of the pair of outputs of--  
- (see line 9 of claim 12).

Claim 12, line 26, "the output of" should be changed to --one of the pair of outputs of--  
(see line 22 of claim 12).

Claim 12, lines 30-31, "switches having one terminals" should be changed to --switches,  
each having one terminal,--.

Claim 13, line 12-13, "the output of" should be changed to --one of the pair of outputs of--  
- (see line 9 of claim 13).

Claim 13, line 26, "the output of" should be changed to --one of the pair of outputs of--  
(see line 22 of claim 13).

Claim 13, lines 31, "switches having one terminals" should be changed to --switches,  
each having one terminal,--.

Claim 13, lines 33, "switches having one terminals" should be changed to --switches,  
each having one terminal,--.

Claim 14, line 2, "off, respectively, by" should be changed to --off by--.

Claim 14, line 3, "are controlled" should be deleted.

Claim 15, line 2, "off, respectively, by" should be changed to --off by--.

Claim 15, line 3, "are controlled" should be deleted.

Art Unit: 2816

Claim 18, line 3, "the operating" should be changed to --the first operating-- to avoid lacking antecedent basis.

Claim 18, line 8-9, "the operating" should be changed to --the second operating-- to avoid lacking antecedent basis.

Claim 19, line 6, "the voltage" should be changed to --the signal voltage-- (see line 3 of claim 19).

Claims 20 and 21 are objected to because they include the informality of claim 19.

Claim 20, line 7, "the input signal voltage" should be changed to --the signal voltage-- (see line 3 of claim 19).

Claim 21, line 11, "selected among a voltage" should be changed to --of a first voltage--.

Claim 21, line 13, "(referred to as a "first voltage"), a voltage" should be changed to --a second voltage--.

Claim 21, line 14, "(referred to as a "second voltage")," should be deleted.

Claim 21, line 18, --wherein-- should be inserted before "a driving".

Claim 21, line 21, "one selected between" should be changed to --one of--.

Claim 23, line 1, "each of" should be deleted.

Claim 24, line 1, "each of" should be deleted.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2816

4. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the recitation “and/or” on line 13 is indefinite because it is not understood whether it means “and” or it means “or”. It appears that “and/or” on line 13 should be changed to --or--.

Claims 1-18 and 22-24 are indefinite because they include the indefiniteness of claim 1.

With respect to claim 19, the recitation “and/or” on line 5 is indefinite because it is not understood whether it means “and” or it means “or”. It appears that “and/or” on line 13 should be changed to --or--.

Claims 20 and 21 are indefinite because they include the indefiniteness of claim 19.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Horie et al. (USP 6,054,887).

Note that Figure 1 of the Horie et al. reference discloses a driving circuit, which includes: an input terminal (30) for receiving an a signal voltage (signal at terminal 30); an output terminal (3) for outputting an output signal (signal at terminal 3); an amplifier (1) for charging/discharging the output terminal (3) and for driving a capacitive load (the downstream

Art Unit: 2816

circuitry connected to output terminal 3 inherently will have capacitance therein so the downstream circuitry is reasonable to be considered as a capacitive load; also note that “for driving a capacitive load” is intended use and the circuitry in Figure 1 is capable of driving any load including the capacitive load) connected to the output terminal (3) based on the signal voltage at the input terminal (30); and an input control circuit (5, 26) for performing control so that a predetermined constant voltage ( $V_{ref}$ ) within an operating range of the amplifier circuit (see Figure 4) and the signal voltage (30) applied to the input terminal (30) are switched for supply to an input terminal (4) of the amplifier circuit (1); wherein a driving period for driving the output terminal (3) including at least a first period (switch 5 is opened and switch 26 is closed) so that the constant voltage ( $V_{ref}$ ) is supplied to the input terminal (4) of the amplifier (1), and a second period (switch 5 is closed and switch 26 is opened) so that the signal voltage is supplied to the input terminal (4) of the amplifier (1), see line 50 of Col. 6 to line 11 of Col. 7.

***Allowable Subject Matter***

7. Claims 1-18 and 22-24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, and to overcome the informalities set forth above.

8. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, and to overcome the informalities set forth above.

Art Unit: 2816

***Conclusion***

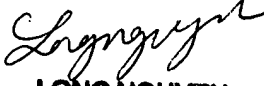
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Thursday from 8:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 15, 2005

  
**LONG NGUYEN**  
**PRIMARY EXAMINER**